

MEDICINE LAKE NATIONAL WILDLIFE REFUGE

MEDICINE LAKE, MONTANA

ANNUAL WATER PROGRAM - 1969

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

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I. Record of 1968 Water Use

A. Source of Supply

Run-off water during the spring of 1968 was provided from the melting of the rather sparse winter snows. Summer and fall rains were low and did not provide any measurable amount of additional water.

Big Muddy Creek, an intermittent drainage flowing in from Canada, provided nearly all of the water stored in Medicine Lake proper. No significant overflow entered Medicine Lake proper from Gaffney Lake or the northeastern impoundments.

Most of the water that entered Homestead Lake came in from Big Muddy Creek. The Lost Creek and Sheep Creek flows this year were very small.

Lake, Cottonwood and Sand Creeks provide water for No. 10 Lake, No. 11 Lake, No. 12 Lake, Katy's Lake and Gaffney Lake. Flows from these creeks were much below normal.

B. Type of Rights

The Bureau of Sport Fisheries and Wildlife through filings posted and recorded in 1936 and 1937 holds Appropriative Water Rights on five drainages. These rights are summarized as follows:

Water Rights Filing No.	Source	Amount of Water Right C.F.S.	Acres under Water Right
233163	Cottonwood Creek	100	3,640
233164	Sand Creek	75	3,640
233165	Lost Creek	25	840
233166	Sheep Creek	20	750
233167	Lake Creek	100	3,640
233168	Big Muddy	50	1,600 Homestead Lake
233169	Big Muddy	1,200	2,000 Medicine Lake

Refuge water use records extend back to June 1936.

C. Purpose of Use

All appropriated waters were used for irrigation of lakes and marshes to provide wildlife food, habitat, disease control, and for storage to satisfy late season water demands of the above.

D. Season of Use

Water usage on the refuge is normally from late March into early December of each year. Ice covers the impoundments from early December into late March.

E. Quantity Used

Refer to the attached Annual Summary of Water Use form for the acre feet of water obtained from each of the drainages into Medicine Lake Refuge. We can summarize by saying 1968 was a year of little run-off. A total of only 17,980 acre feet entered the refuge in 1968. Lost Creek and Lake Creek did not flow at all.

F. Place of Use

The Annual Summary of Water Use form shows the place of use for all waters appropriated during 1968.

G. Adequacy of Supply

The major water supply for Medicine Lake Refuge is from melting snows. During certain years heavy rains provide additional run-off. A small amount of water is obtained from live springs.

Only 17,980 acre feet of water entered the refuge in 1968 as compared to 85,777 acre feet in 1967. However, there was a good carry over of water from the fall of 1967. This kept the impoundment levels to near capacity even though there was very little run-off in the spring of 1968.

The following chart lists the monthly levels in all units during the 1968 season.

MONTHLY RECORD OF GAUGE READINGS - 1968

IMPOUNDMENT	No. 4*	No. 6*	Unit No. 10	Unit No. 11	Unit No. 12	Katy's Lake
PRESENT OPER. LEVEL	1943.00	1937.65	1945.00	1951.54	1954.00	1954.00
January	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
February	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
March	1942.88	-----	1944.83	1951.88	Frozen	1953.68
April	1942.98	1937.80	1944.23	1950.36	1953.38	1953.80
May	1942.72	1937.64	1944.07	1951.18	1953.34	1953.66
June	1942.56	1937.20	1943.71	1950.96	1953.22	1953.34
July	1942.32	1936.98	1943.51	1950.78	1953.44	1953.20
August	1941.92	-----	1943.41	1950.50	1953.06	1953.00
September	1942.06	1936.16	1943.26	1950.52	1953.00	1953.00
October	1941.66	1937.14	1943.25	1950.40	1952.94	1953.00
November	1941.60	1937.00	1943.25	1950.38	1952.92	1953.00
December	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen

All gauge readings as of the middle of each month.

*No. 4 - Medicine Lake

*No. 6 - Homestead Lake

Given in the following chart are deficiencies in unit water levels at freeze-up time during the 1963-68 period.

DEFICIENCY IN ACRE FEET AS OF DECEMBER 1

IMPOUNDMENT	1963	1964	1965	1966	1967	1968
Medicine Lake	8,352	17,000	12,230	*24,800	*13,000	16,700
Homestead Lake	1,600	1,800	2,400	* 2,600	* 3,600	8,000
Katy's Lake	224	600	140	242	678	300
No. 10 Lake	319	1,700	860	1,526	1,600	1,800
No. 11 Lake	102	400	426	440	380	500
No. 12 Lake	471	1,000	231	1,080	500	300
Totals	11,068	22,500	16,287	30,688	19,758	27,600

*Water released for disease control or marsh management.

II. Recommendations for 1969

Considering the water management season for 1969 is over, it is a bit too late for recommendations. Nothing unusual was contemplated or accomplished in the line of water management in 1969.

LAMESTEER NATIONAL WILDLIFE REFUGE
WIBAUX, MONTANA

ANNUAL WATER PROGRAM - 1968

1. Source of Supply

Spring run-off water entering the reservoir via Lamesteer Creek is the entire source of water for the Lamesteer Reservoir.

2. Type of Rights

A "Notice of Appropriation of Water" claiming 427 acre feet of water of Lamesteer Creek was posted on June 30, 1938, over the signature of Wilbert A. Rodgers, Administrative Assistant, Bureau of Biological Survey, as authorized agent for the Secretary of Agriculture. The fact of posting was recorded in Book 6 of Miscellaneous on page 345 in the Wibaux County Recorder's Office, Wibaux, Montana, on July 16, 1938.

3. Purpose of Use

During the 1967 season all appropriated waters were used for flood control, water conservation, propagation and feeding of waterfowl, and for irrigation as called for in the "Notice of Appropriation of Water".

4. Season of Use

Water usage on the refuge is on a yearlong basis with the heaviest demands being made during the ice free period of March through November when evaporation and transpiration rates are the greatest.

5. Quantity Used

All water received was from melting snow during the March-April, 1968 period. On April 19, 1968, the reservoir was at full capacity and had been flowing over the spillway prior to this visit. Evidently the Wibaux area had more snow than the Medicine Lake area. This was evident as the run-off was proportionately much greater at Lamesteer Refuge. Our last visit to Lamesteer Refuge was on October 15, 1968 when the water was 20 inches below crest.

6. Place of Use

All appropriated waters were used within the boundaries of the SE $\frac{1}{4}$ of Section 14 and all of Sec. 15, T12N, R60E of Montana Principal Meridian, Wibaux County, Montana.

7. Adequacy of Supply

The water supply for Lamesteer Reservoir was adequate this year. As mentioned in item 5, the water level was excellent this year. We have no way of knowing the acre feet of water that passed over the spillway.

8. Recommendations for 1969

We have no recommendations for the 1969 season other than to hold all water entering the reservoir until the spillway elevation is attained; any water in excess to this amount will be spilled on downstream from the refuge. We cannot control the reservoir water elevations nor forecast the amount of spring and summer run-offs that will enter the reservoir.

Submitted: Donald M. White
Date: Dec. 19, 1969

Approved: [Signature]
Date: 3/11/70